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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/632,806 | 08/04/2003 | Katsuhiko Takahashi | 03500.014833.1 | 5546 |

5514 7590 06/17/2005

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| EXAMINER |
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SHOSHO, CALLIE E

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| ART UNIT | PAPER NUMBER |
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1714

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/632,806 | Applicant(s) TAKAHASHI ET AL. | |
| | Examiner Callie E. Shosho | Art Unit 1714 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/672,769.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>8/4/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi (U.S. 6,790,878) in view of Taniguchi et al. (U.S. 2001/0018474).

Kurabayashi discloses ink jet ink comprising water, resin encapsulating colorant, i.e. carbon black, wherein the resin contains cationic hydrophilic group, self-dispersing pigment, i.e. carbon black, having cationic hydrophilic group bonded to its surface, and 2-30% polyhydric alcohol such as glycerol, propylene glycol, and 1,26-hexanetriol. There is also disclosed method wherein the above ink, which is stored in ink cartridge of ink jet printer, is ejected from the printer onto substrate (col.1, lines 10-11, col.6, lines 6-24 and 49-50, col.8, lines 34-39, col.9, lines 33-35 and 44-45, col.10, lines 22-29, col.11, lines 44-49, and col.14, lines 40-44).

The difference between Kurabayashi and the present claimed invention is the requirement in the claims of ethylene urea or propylene urea.

Taniguchi et al., which is drawn to ink jet ink, disclose the use of additional solvent such as ethylene urea or propylene urea in order to produce ink that is stably printed at low temperature (paragraph 41).

In light of the motivation for using ethylene urea or propylene urea disclosed by Taniguchi et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use ethylene urea or propylene urea in the ink jet ink of Kurabayashi in order to produce stable ink that can be printed at low temperatures, and thereby arrive at the claimed invention.

NOTE: As set forth in amended 35 USC 103(c), subject matter which qualifies as prior art under one or more subsections (e), (f), and (g) of section 102 cannot be applied against the

claimed invention if the prior art and the claimed invention “were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.” This rule change to 103(c) applies to any patent application filed on or after November 29, 1999. See Official Gazette, April 11, 2000. As noted in the Official Gazette, the “mere filing of a continuation application on or after November 29, 1999 will serve to exclude commonly owned 102(e) prior art that was applied, or could have been applied, in a rejection under 103 in the parent application.”

Given that the filing date of the present application is subsequent to November 29, 1999 and that Kurabayashi qualifies as prior art under 35 USC 102(e), applicant is advised that a statement indicating that Kurabayashi was commonly owned at the time the present invention was made will be required to remove the rejection under 35 USC 103. See the Official Gazette Notice of April 11, 2000, 1233 OG 54.

Response to Preliminary Remarks

4. The present application is a continuation-in-part of 09/672,769, now abandoned. In the parent application, the claims, which are identical to the claims in the instant application, were rejected utilizing Tsutsumi et al. (U.S. 6,031,019) in view of Suzuki et al. (U.S. 6,153,001) and either Tsang et al. (U.S. 5,886,065) or Johnson et al. (U.S. 5,922,118) or using Suzuki et al. (U.S. 6,153,011) in view of Tsutsumi et al. (U.S. 6,013,019).

In the rejections of record Tsutsumi et al., which teaches the use of urea, was used in combination with Suzuki et al., which teaches the equivalence and interchangeability of urea with ethylene urea or Suzuki et al. was used in combination with Tsutsumi et al.

In the parent application, applicants filed 1.132 declaration on 7/31/02, which compared ink within the scope of the present claims, i.e. comprising ethylene urea, with ink outside the scope of the present claims but within the scope of the prior art, i.e. comprising urea. It was shown that the ink of the invention was superior in terms of phase separation or storage stability. However, the examiner noted that specification as originally filed did not disclose that ethylene urea effects phase separation or storage stability as set forth in the declaration. The examiner also noted that the courts have upheld that a “basic property or utility must be disclosed in order for affidavit evidence of unexpected properties to be offered,” *In re Davies et al.*, 177 USPQ 381 (CCPA 1973). Thus, it was concluded that applicants’ had failed to make a clear and convincing showing of evidence of patentability of the claims.

However, in the present application, the specification now includes Comparative Example 2, which is identical to the comparative data set forth in the 1.132 declaration filed 7/31/02 in the parent application.

Thus, rejections utilizing Tsutsumi et al. in view of Suzuki et al. and either Tsang et al. or Johnson et al. or using Suzuki et al. in view of Tsutsumi et al. are not envisaged in the present application given that the comparative set forth in the present specification establishes unexpected or surprising results over this prior art.

However, it is noted that as set forth above, the present claims are rejected utilizing Kurabayashi in view of Taniguchi et al. It is the examiner’s position that the comparative data set forth in the present specification is not persuasive in overcoming the cited prior art for the following reasons:

Kurabayashi discloses ink comprising cationic resin encapsulated carbon black, self-dispersing pigment having cationic groups bonded to the surface, and polyhydric alcohol, however, there is no disclosure of ethylene urea or propylene urea which is why Kurabayashi is combined with Taniguchi et al. which teach the use of ethylene urea or propylene urea.

The data in the present specification compares ink within the scope of the present claims, i.e. comprising ethylene glycol or propylene glycol (examples 2 and 3), with ink outside the scope of the present claims but within the scope of Kurabayashi, i.e. comprising no ethylene urea or propylene urea (comparative example 1). It is shown that the inks of the present invention are superior in terms of ink re-solubility. However, the data is not persuasive given that there is not proper side-by-side comparison between ink within the scope of the present claims and ink outside the scope of the present claims given that the inventive inks and the comparative ink contain different types and/or amount solvent. Specifically, example 2 requires 1% propylene glycol and example 3 requires 5% glycerol while comparative example 1 requires 5% diethylene glycol. Thus, it is not clear if the difference between the inventive inks and the comparative ink is due to the absence of propylene urea or ethylene urea or due to the use of different types of solvent.

The data in the specification also compares ink within the scope of the present claims, i.e. comprising ethylene glycol (Ink A), with ink outside the scope of the present claims, i.e. comprising urea (Ink B). It is shown that the inks of the present invention are superior in terms of phase separation or storage stability. However, this data is not persuasive over the cited prior art given that the data does not compare ink of the present invention with ink of the "closest" prior art given that there is no disclosure in Kurabayashi or Taniguchi et al. of urea. That is, Ink

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B is not only outside the scope of the present claims but also is not within the scope of either Kurabayashi or Taniguchi et al.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mishina et al. (U.S. 6,511,534) discloses ink jet ink comprising encapsulated self-dispersing pigment, however, there is no disclosure or suggestion of propylene urea or ethylene urea.

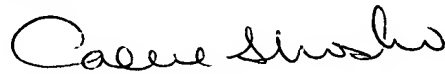
Teraoka et al. (U.S. 6,652,0894) and Takada et al. each disclose ink jet ink comprising resin encapsulating a coloring material and pigment having cationic group, however, there is no disclosure or suggestion of propylene urea or ethylene urea. Further, in light of the filing date of each of the references, neither is applicable against the present claims under any subsection of 35 USC 102(e).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
6/11/05